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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Andrew M. Weiner Art Unit : 2638
Serial No. : 09/865,028 Examiner : Dzung D. Tran
Filed : May 24, 2001
Title : METHODS AND SYSTEMS FOR POLARIZATION CONTROL AND
 POLARIZATION MODE DISPERSION COMPENSATION FOR WIDEBAND
 OPTICAL SIGNALS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132

BY YONGQIAN LIU IN SUPPORT OF US PATENT APPLICATION

SERIAL NO. 09/865,028 BY ANDREW M. WEINER

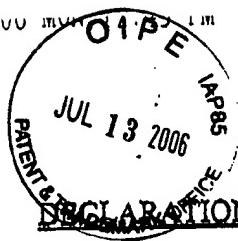
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DECLARATION BY YONGQIAN LIU IN SUPPORT OF US PATENT APPLICATION
SERIAL NO. 09/865,028 BY ANDREW M. WEINER

1. I am one of the inventors on U.S. Patent No. 6,275,623 to Brophy et al. (hereinafter "the Brophy patent").
2. It is my understanding that the U.S. Patent Office has relied on the Brophy patent to reject several claims of U.S. Patent Application Serial No. 09/865,028 (hereinafter "the present application") as lacking novelty over the Brophy patent.
3. I am a former colleague of the sole inventor of U.S. Patent Application Serial No. 09/865,028, Andrew M. Weiner. Specifically, I worked with Dr. Weiner as a Post-Doctoral Research Associate from 1995 to 1997, while he was a Professor of Electrical and Computer Engineering at Purdue University.
4. As an inventor on the Brophy patent, I summarize below several points regarding its disclosure.
 - 4A) The Brophy patent is directed to adjusting the amplitudes of wavelength components of an optical signal using a spectral filter. The amplitudes are adjusted to achieve a desired distribution of amplitudes among the wavelength components.
 - 4B) The Brophy patent discloses detectors (e.g., spectral monitors) that measure the amplitudes of wavelength components of the optical signal. The detectors convey the measured amplitude information to a controller, and the controller adjusts a modulator (e.g., a spatial light modulator) based on the amplitude information.
 - 4C) The detectors disclosed in the Brophy patent are not sensitive to phase variations or polarization variations among the wavelength components of the optical signal. Although the optical signal from a wavelength division multiplexing (WDM) system may inherently include distortions caused by frequency dependent polarization effects, the detectors disclosed in the Brophy patent would not be sensitive to such effects.

4D) The Brophy patent discloses a polarization manager (element 30) to select polarization components of each of the wavelength components of the optical signal, where the selected polarization components each have a common orientation. The selection is performed to ensure maximum efficiency, at each wavelength, of transmission or reflection of the selected polarization components through or from polarization sensitive elements such as diffraction grating 40.

4E) The Brophy patent discloses a modulator to modulate wavelength components of the optical signal. The modulator, which can be a spatial light modulator, can be configured to directly modulate the amplitude of wavelength components of the optical signal. Alternatively, Brophy's modulator can be configured to modulate the phase or polarization of the wavelength components of the optical signal. When the modulator is configured to modulate the phase or polarization of the wavelength components of the optical signal, the modulator is always optically coupled to a phase or polarization sensitive element that converts the modulated phase or polarization of each of the wavelength components to an amplitude modulation of each of the wavelength components.

4F) In the systems disclosed in the Brophy patent, the polarization state of the wavelength components of the optical signal is nominally the same immediately prior to reflection from diffraction grating 40 for the first time along the optical path through the spectral filter and immediately following reflection from diffraction grating 40 for the last time along the optical path.

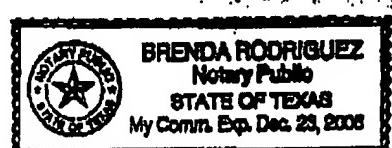
5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Signature 

State of Texas

County of Dallas

Sworn to and before me by Yongqian Liu



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